

DELTA PROTECTION COMMISSION

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March 14, 1997

To: Delta Protection Commission

From: Margit Aramburu, Executive Director

Subject: Preliminary Report of the Governor's Flood Emergency Action Team dated February 10, 1997

Background.

On January 10, 1997, the Governor issued Executive Order W-141-97 which set up the Flood Emergency Action Team (FEAT) made up of cabinet secretaries and department heads. The FEAT team was charged with addressing the following issues:

- a. Assess Central Valley levees and other flood control facilities affected by the recent floods, and develop a plan for the repair and stabilization of damaged facilities.
- b. Recommend a long-term repair and general maintenance plan, consistent with related state and federal activities including the CALFED Bay-Delta program.
- c. Evaluate agency responses during the recent floods related to flood control facility operations and repairs, and develop recommendations for improvements to response procedures.
- d. Develop short-term strategies related to levee and flood control facility maintenance and operation for response to additional storms during the remainder of the 1997 rain season.

Preliminary Report.

On February 10, 1997, the FEAT "30 day" report was issued (excerpts are attached). FEAT recommendations to the Governor include:

State Actions:

Urge FEMA to accelerate reimbursement of federal disaster claims.

Direct DWR to install new stream gauging stations and telemetry to provide real-time data for areas found to be deficient during the January event.

Direct DWR to establish a new Levee Rehabilitation Unit to work with the Corps to restore levees to pre-flood condition before the 1998 flood season.

Direct OES to conduct workshops in areas at risk this flood season to review roles and procedures related to dissemination of flood information and public warnings.

Direct CALFED as part of its planning process to optimize use of Prop 204 and CVPIA funds for dual purpose projects which incorporate both flood control and habitat restoration.

Federal Actions:

Urge Congress to pass a supplemental appropriations bill to fund urgent highway and levee repair programs.

Request the California Congressional delegation to work with the administration to urge the Corps to restore critical levees that broke in the Sacramento River Flood Control System to their full height and section under the Corps emergency repair authority for the remainder of this rainy season.

Direct Resources Agency to work with the California Congressional Delegation to urge US Fish and Wildlife to exercise its authority to implement emergency procedures with respect to mitigation for emergency levee repair and reconstruction to make it clear that if mitigation is required, it will be to the post-flood level of habitat. Request that on site consultations by the Service follow the Department of Fish and Game's process which results in an expedited permit with necessary mitigation defined in the permit.

120 Day Report.

FEAT will also issue a 120 day report. The 120 day report will examine a number of potential long-term activities and identify actions for implementation.

Already identified is the need for a comprehensive study of both the Sacramento and San Joaquin Flood Control Projects, including the Delta, that would evaluate reservoir, river channel, and levee system capability and the level of protection currently provided. The study should consider the need for a comprehensive structural analysis of existing levees to identify further remedial repair and rehabilitation work. Issues include increasing level of flood protection for urbanizing areas, and consideration of directing the State Reclamation Board to reassert its land use control function through the Designated Floodways Program.

The study should evaluate alternative means of improving flood channel capacity, possibly through new or enlarged flood bypass or levee setback systems in areas with little permanent infrastructure or development such as the San Joaquin River flood plain and the Delta. Other suggestions to be evaluated are non-structural means of improving channel capacity through debris removal, improved channel clearing and maintenance and managed sediment and gravel removal.

The study should discuss the possibility of on and off-stream storage facility that could compliment the flood bypass system and provide additional water supplies while providing a higher level of flood protection.

The 120 day report will determine to what extent levee safety was compromised by pre-flood maintenance and repair practices required by environmental regulation.

The report will address the subject of emergency response and operations needs based on the workshops and the findings of Standard Emergency Management System (SEMS) preliminary maintenance system report. Findings will address flood information and public warnings, and the coordination of emergency response from local level through State government.

Issues of Concern to the Delta Protection Commission.

The Commission has suggested that a workshop be held in the Delta area; that suggestion was passed on to the Secretary for Resources, no meeting has been scheduled in the Delta.

The Delta Protection Commission's adopted policies regarding Levees in the "Land Use and Resource Management Plan for the Primary Zone of the Delta" state:

Delta levees shall be maintained to protect human life, to provide flood protection, to protect private and public property...Delta levee maintenance and rehabilitation shall be given priority over other use of the levee areas. To the extent levee integrity is not jeopardized, other uses, including support of vegetation for wildlife habitat shall be allowed.

...local governments shall adhere to guidelines for federal and local levee maintenance and construction at a minimum as stipulated in the Flood Hazard Mitigation Plan guidelines, and set longer term goals of meeting PL-99 standards...

...local governments shall carefully and prudently carry out their responsibilities to regulate new construction within flood hazard areas to protect public health, safety, and welfare...

Existing programs for emergency levee repair should be strengthened and better coordinated between local, State, and federal governments and shall include: interagency agreements and coordination; definition of an emergency; designation of emergency funds; emergency contracting procedures; emergency permitting procedures; and other necessary elements.

Regarding data in the report, the two maps following page 10, include no flow data for the Mokelumne River, Dry Creek, and Consumnes River. This information should be included in the 120 day report.

Comments of the Central Delta Water Agency and the South Delta Water Agency.

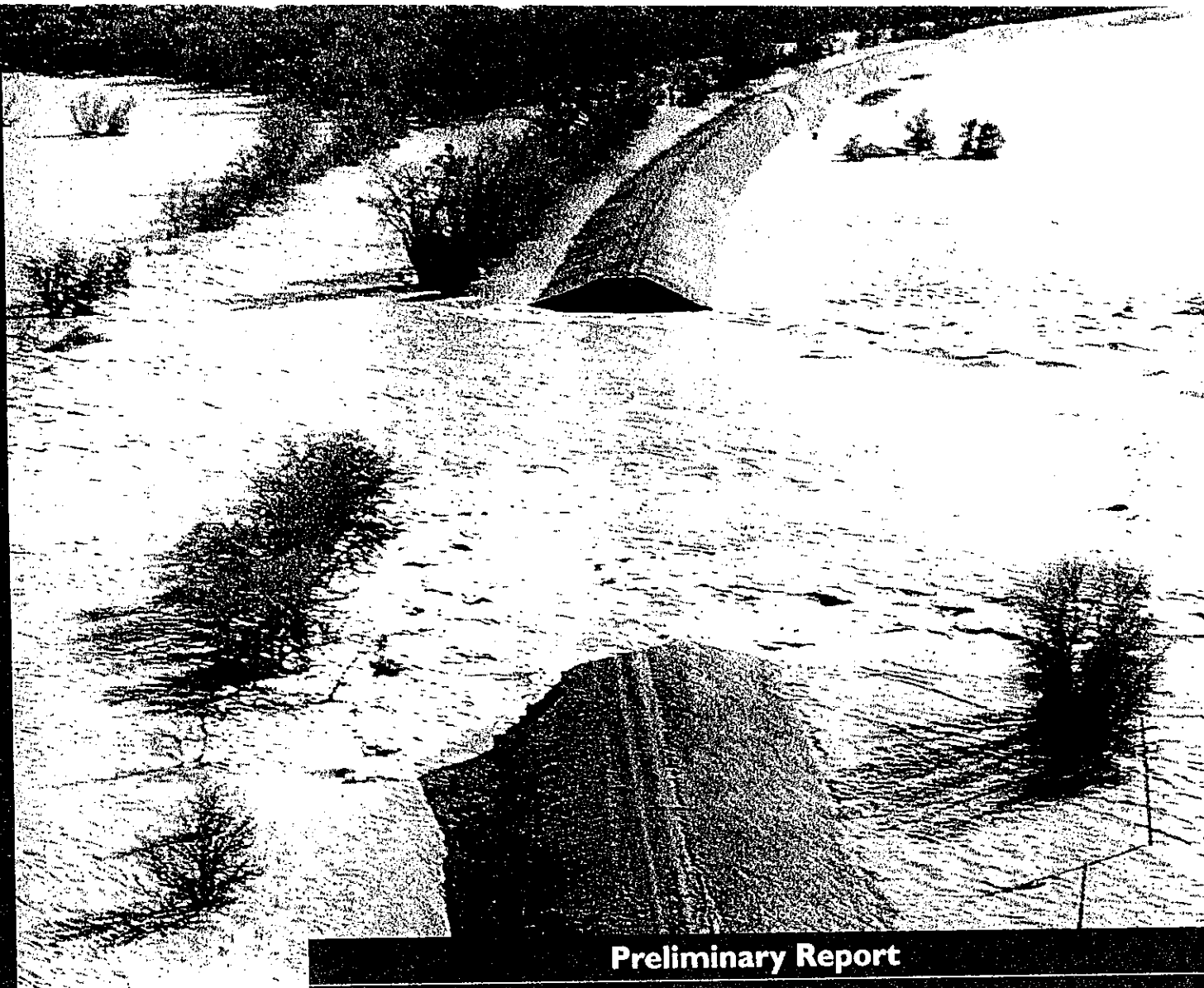
The South and Central Delta Water Agencies are writing a joint letter regarding flood protection in the San Joaquin River System including the South Delta. A copy will be available at the meeting.

Comments of the North Delta Water Agency

North Delta Water Agency has submitted a comment letter to Secretary Wheeler (copy attached). The letter recommends: a review of the entire federal flood control system, use the Delta levee subvention program in other areas, find funds for levee system repair and maintenance, develop contracts for emergency repair work, and improve communication between the districts and DWR and the Corps.

Recommendation

The Commission should determine if comments should be submitted to Secretary Wheeler, summarizing the policies in the regional plan, referencing the letters from the Delta water agencies, and addressing: closure of Delta waterways and local problems with marinas upstream from bridges.



Preliminary Report

**Governor's Flood Emergency Action Team
February 10, 1997**



The Resources Agency

Pete Wilson
Governor



Douglas P. Wheeler
Secretary

of California

California Conservation Corps • Department of Boating & Waterways • Department of Conservation
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Water Resources

February 10, 1997

The Honorable Pete Wilson
State Capitol
Sacramento, CA 95814

Dear Governor Wilson:

Many regions in California sustained severe rainfall and runoff during the December 26, 1996-January 3, 1997 storms. Flooding, property damage, and threats to public safety occurred in the Sacramento and San Joaquin Valleys and other areas of California which caused suffering and hardship to the inhabitants of the impacted areas and harmed the economies of both the affected areas and the State.

On January 10, 1997, you signed an Executive Order creating the Flood Emergency Action Team (FEAT) to evaluate the response of the various State agencies, in coordination with the federal and local governments, to this critical situation. The team is composed of State officials who have responsibility over activities related to the floods. As part of this effort, we established local citizen action teams to help with the evaluation.

FEAT was charged with producing a 30-day preliminary report and a 120-day final report. The preliminary report, which this letter transmits, provides a preliminary *survey of economic impacts*; briefly *assesses Central Valley levees and flood control facilities* affected by the floods and efforts to develop a repair and stabilization plan for damaged facilities, *makes recommendations for long-term repair and general maintenance plans*, *evaluates State agencies' responses to the floods*, and develops some *short-term strategies to respond to additional storms* during the remainder of the 1997 rain season.

The Resources Building Sacramento, CA 95814 (916) 653-5656 FAX (916) 653-8102

California Coastal Commission • California Tahoe Conservancy • Colorado River Board of California
Energy Resources, Conservation & Development Commission • San Francisco Bay Conservation & Development Commission
State Coastal Conservancy • State Lands Commission • State Reclamation Board




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The Honorable Pete Wilson
February 10, 1997
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The full team has had two meetings in Sacramento and members have met with one local citizens advisory team since the initial flood event, in addition to countless visits by State and federal officials to impacted areas. The recommendations outlined in the preliminary report are a direct result of these meetings and first-hand observations of FEAT members. Additional long-term recommendations will be explored and discussed more fully in the 120-day final report which is due on June 10.

FEAT very much appreciates the immediate and full cooperation offered by the federal agencies involved. Pursuant to your Executive Order, the FEAT will continue to function until June 10, and will conduct additional meetings, as needed. We believe this report and the forthcoming 120 day report will help to focus the State's long-term response to flood control in California.

Sincerely,



Douglas P. Wheeler
Secretary for Resources

Executive Summary

The disastrous floods of January 1997 had enormous impacts on much of California, produced record flows on many Central Valley rivers, and were more widespread than any floods this century. These floods not only tested the Sacramento-San Joaquin flood control systems, but they tested the stamina and resolve of its citizens — best exemplified by the heroic and successful effort to save the small town of Meridian.

While the major flood control reservoirs performed as designed, the sheer magnitude and duration of rainfall runoff overwhelmed the system capability to safely pass the flows through the Sacramento-San Joaquin flood control systems. Flows in the Feather River below Marysville and in the Sutter Bypass exceeded channel design capacities, contributing to factors that caused two major levee failures in those areas. In the San Joaquin system, unprecedented flood control releases from major reservoirs, some exceeding downstream channel design capacity by magnitudes of four to seven times, caused extensive levee failures throughout the entire system. Further, sustained high flows in the Sacramento-San Joaquin flood control systems saturated and weakened levees, some to the point of failure. More than 160,000 acres were flooded as a result of these levee failures.

In many other areas outside the Sacramento-San Joaquin flood control systems the January storms caused considerable flooding and damage to local communities and agriculture. On the Cosumnes River, record flood flows caused massive damage to the private levee system allowing flood waters to damage many homes and businesses, causing extensive agricultural damage, and the temporary closure of Highways 16 and 99 and Interstate 5. The Napa and Russian rivers overtopped their banks, again flooding communities that were damaged by the 1995 and 1986 floods. Areas along the Truckee and Walker rivers were ill-prepared for the massive flows which caused severe damage to every community along their paths.

Excessive runoff and water springs caused mudslides along Highway 50 in the Sierra Nevada closing the highway until April. Highway 395, in the eastern Sierra Nevada, was literally washed from the Walker River Canyon for several miles and currently requires detours.

Another major storm this rainy season will greatly challenge the impaired flood control system. In many San Joaquin River system reservoirs, flood control space is severely encroached. Reservoir releases in this system will likely remain at or near channel capacity into June to accommodate flood control and snowmelt.

As this report is being prepared, flood control storage in the Sacramento system has been recovered in all reservoirs. However, circumstances can shift rapidly with the weather and a case-by-case balance will need to be achieved between storage and water releases. It is estimated that damage to the flood control system may exceed \$300 million.

This disaster affected a wider area of California than previous disasters. All statewide emergency response agencies operated at full capacity for several days in early January and some continue to operate on an alert status. Cities and counties that previously had not experienced flooding or other disasters were not as prepared to coordinate response activities and some were not adept at following disaster procedures during this emergency.

The Governor's Office of Emergency Services coordinated the State's response efforts and handled approximately 400 mission requests in support of flood-fight efforts. Forty-eight crews with 700 California Conservation Corps members worked in 20 different locations, primarily handling levee seepage. The California Department of Forestry and Fire Protection deployed at its peak 260 employees to assist DWR and local government. It also provided 150 hand crews who protected levees and did sandbagging problem seepage.

California sustained major infrastructure losses in all segments of its economy. Preliminary estimates suggest damages in excess of \$230 million to tourism in 25 California counties. Damage to roads and facilities in and adjacent to Yosemite National Park has significantly hurt local counties' economies, and California's tourism industry overall. Preliminary damage estimates in Yosemite alone exceed \$178 million. Damage to highways, roadways, and other public structures on public lands could exceed \$500 million, and agricultural losses are estimated to be in excess of \$250 million.

Nearly 300 square miles of land has been flooded, temporarily forcing about 100,000 people from their homes. The American Red Cross reported that more Californians sought shelter with them than in any other State disaster. By the end of January, over 23,000 homes and about 2,000 business had been damaged or destroyed at a cost of just under \$400 million (about \$300 million for housing and about \$80 million for businesses).

The following recommendations outline immediate actions to help alleviate short-term problems associated with the disaster and outline the intermediate and longer term approaches to finding a more permanent response to the circumstances that precipitated the disaster.

Flood Emergency Action Team Recommendations to the Governor

The disastrous floods of January 1997 had an enormous impact on California. The flooding was more widespread than any in this century and produced record flows on many Central Valley rivers. In fact, flooding continues in parts of the valley as this report is being written. As a result of this year's flooding, more people were evacuated than in any other single disaster in California's history. For the most part, local, State, and federal agencies were able to respond and provide the emergency services needed. However, much must still be done to speed the state's physical and economic recovery from this devastation, and to that end, the Flood Emergency Action Team has the following recommendations:

Actions Already Taken

- *The Governor directed the Office of Emergency Services on February 6 to advance \$8 million in state funds to cover the immediate costs to counties that have been most affected by the flooding.*
- *The Governor directed the Department of Water Resources on February 6 to immediately provide assistance for the pumping of tens of thousands of acres of ponded floodwaters that imperil public health, safety, property, and which threaten further damage to flood control project facilities and property.*

Further State Agency Actions

- Direct the Governor's Office of Emergency Services to work with the California Congressional Delegation and the federal administration to urge Federal Emergency Management Agency to accelerate the reimbursement of federal disaster claims.
- Direct the Department of Water Resources to install new stream gauging stations and telemetry to provide real-time data for areas found to be deficient during the early January event. The addition of this telemetry will allow river forecasters to optimize reservoir release schedules to minimize further damage to an already weakened levee system. Further, request Congress and the federal administration to provide adequate funding to the U.S. Geological Survey to fully fund its share of the stream gage program so that additional stations necessary for flood operations are not abandoned.
- Direct the Department Water Resources to establish a new Levee Rehabilitation Unit to work with the U.S. Army Corps of Engineers to restore levees to pre-flood condition, prior to the 1998 flood season (preliminary repair estimate of \$300 million). This unit will support the efforts of the U.S. Army Corps of Engineers to rehabilitate the flood control system in a way that is consistent with the findings of the final report of the Flood Emergency Action Team and other, ongoing, water systems reviews.
- Direct the California Department of Transportation to offer State capabilities to the National Park and Forest Service, on a contractual basis, for repairs to

National Park and Forest Service facilities damaged by the January floods. Major parks, such as Yosemite National Park, must be reopened as quickly as possible as their closures have serious negative economic consequences on both a regional and statewide basis.

- Direct the Office of Emergency Services to conduct workshops with State, local and federal agencies, and the media, in areas at risk during this flood season, to review roles and procedures related to dissemination of flood information and public warnings.
- Direct the Department of Water Resources and the Office of Emergency Services, in cooperation with affected counties and landowners, to support development of local plans for emergency repair of "private" levees and submit those plans to Federal Emergency Management Agency for federal funding.
- Direct the Secretary of the Trade and Commerce Agency to implement a tourism promotion campaign focused on Lake Tahoe, the Yosemite Valley, the North Coast, and the Central Coast. The promotion is to counteract any effect reports of road closures and widespread damage may have had on tourism.
- Direct CALFED, as part of its planning process to optimize use of Proposition 204 and Central Valley Project Improvement Act funds for dual purpose projects which incorporate both flood control and habitat restoration.

Requests for Federal Actions

- Urge Congress to pass a supplemental appropriations bill to fund urgent highway and levee repair programs, and other federally reimbursable programs, that are crucial to California's economic recovery and public safety needs.
- Request the California Congressional Delegation to work with the federal administration to urge the U.S. Army Corps of Engineers to restore critical levees that broke during the January floods in the Sacramento River Flood Control System to their full height and section under the Corps emergency repair authority to provide maximum flood protection for the remainder of this rainy season.
- Direct the Resources Agency to work with the California Congressional Delegation to urge the U.S. Fish and Wildlife Service to exercise its authority to implement emergency procedures with respect to mitigation for emergency levee repair and reconstruction to make it clear that if mitigation is required, it will be to the post-flood level of habitat. Further, request that on site consultations conducted by the service follow the California Department of Fish and Game's process which results in an expedited permit with necessary mitigation defined in the permit.
- Direct the Department of Water Resources to work with the U.S. Army Corps of Engineers to accelerate the Phased Sacramento Flood Control Project

rehabilitation program that resulted from the 1986 floods to provide a higher level of protection to urban areas as quickly as possible.

- Urge Congress to re-authorize and fund the Tree Assistance Program in the supplemental appropriations bill. This program, which could replace trees drowned in the floods, is administered through the United States Department of Agriculture.

Topics for the 120-day Report

The January floods pointed out the need to further examine the Sacramento-San Joaquin flood control systems along with other coastal river systems that have chronic flooding problems. The 120-day report will examine a number of potential long-term activities and identify those actions that are appropriate for implementation. While in some instances 120 days is not adequate to redefine or reach ultimate solutions, the report will help focus issues that must be addressed in parallel processes such as CALFED and the proposed U.S. Army Corps of Engineers basin-wide study.

Among the issues identified is the need for a comprehensive study of both the Sacramento and San Joaquin Flood Control Projects, including the Delta, that would evaluate reservoir, river channel, and levee system capability and the level of protection currently provided. The study should consider the need for a comprehensive structural analysis of existing levees to identify further remedial repair and rehabilitation work.

The study should evaluate areas in the Central Valley that are urbanizing or developing significant infrastructure, as these areas may need a higher level of protection than is currently provided. Many of the problems associated with the flooding in past years is the result of land use decisions. Consideration should be given to directing the State Reclamation Board to reassert its land-use control function through the Designated Floodways Program.

As part of the system review, the study should evaluate alternative means of providing increased flood control capacity. Some of the alternatives that should be examined include new or enlarged flood bypass or levee setback systems. This approach may be particularly useful in areas where there is little permanent infrastructure or development such as the San Joaquin River flood plain and the Delta.

Some of the correspondence that FEAT received emphasized non-structural means of improving flood channel capability through debris removal, improved channel clearing and maintenance, and carefully managed sediment and gravel removal. The study will evaluate whether these actions can be used without compromising the integrity of facilities such as roadways and bridges, degradation of water quality, and habitat. In addition, there is some question as to whether this approach is cost effective as a flood control measure. Nevertheless, the study should evaluate the relative merits of the arguments on both sides.

Finally, the study should discuss the possibility of on and off-stream storage facilities that could compliment the flood bypass system and provide additional water supplies while providing a higher level of flood protection.

The 120-day report should endeavor to determine to what extent levee safety was compromised by pre-flood maintenance and repair practices required by environmental regulation. If review determines there were adverse effects due to regulations, options for balancing wildlife concerns and public safety needs should be identified. The 120-day report should also examine current alternatives for flood control in urban and other areas prone to flooding along the Russian and Napa rivers. Consideration should also be given to studying alternative methods of flood protection.

Lastly, the larger subject of emergency response and operations needs to be addressed in the 120-day report. Using information from the workshops with State, local, and federal agencies, and the media, as well as the findings of the Standard Emergency Management System (SEMS) preliminary maintenance system report, recommendations for improvements should be offered. The recommendations should encompass flood information and public warnings, as well as an overall evaluation of the coordination of the emergency response from the local level through State government. The SEMS maintenance system provides the permanent vehicle to evaluate the emergency operations systems and to identify any operation, procedural, or system-wide improvements that should be made.